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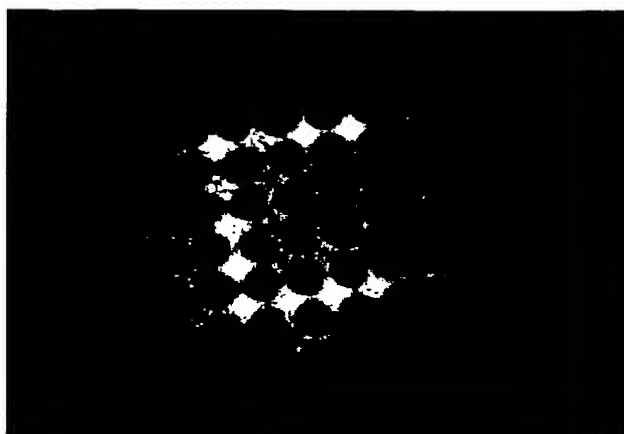
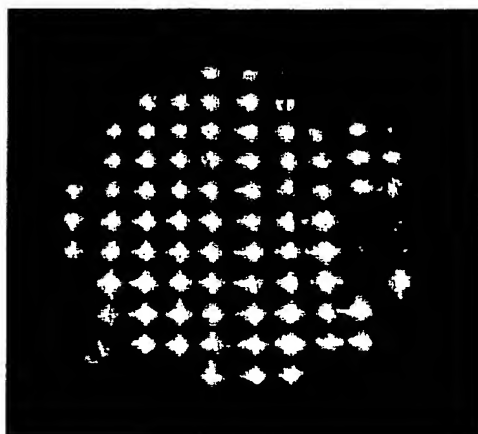
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(54) Title: **MULTICORE MICROSTRUCTURED OPTICAL FIBRES FOR IMAGING**



(57) Abstract: The present invention relates to the design and manufacture of microstructured optical fibres. The invention has particular application in the manufacture of microstructured optical fibres for imaging purposes such as, for example, endoscopy, ear-implants, and chip-to-chip interconnects. A first aspect of the invention provides a method of producing a microstructured optical fibre from a preform, said method including the steps of: creating zones of relatively high refractive index at predetermined locations in said preform, said zones substantially surrounded by material of relatively low refractive index to create an array of light guiding cores, and subsequently drawing said preform to create a length of said microstructured optical fibre. A second aspect of the invention provides a method of producing a microstructured optical fibre from a preform, said method including the steps of: creating channels of relatively low refractive index at predetermined locations in said preform, said channels acting to define light guiding cores, and subsequently drawing said preform to create a length of said microstructured optical fibre.

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